What is claimed is:

1. A semiconductor device comprising:

a gate electrode formed on a first conductive type semiconductor substrate via a first gate oxide film and a second gate oxide film; and

second conductive type source·drain regions of low and high concentration formed adjacent to the gate electrode,

wherein a diffusion region width of the source·drain regions of low concentration on the source region side is smaller than at least that on the drain region side.

2. A semiconductor device comprising:

a gate electrode formed on a first conductive type semiconductor substrate via the first and the second gate oxide film;

second conductive type source-drain regions of low and high concentration formed adjacent to the gate electrode;

source-drain regions of low concentration formed adjacent to both ends of the gate electrode in such a manner that a diffusion region width on the source region side is smaller than at least that on the drain region side;

a source region of high concentration formed adjacent to one end of the gate electrode; and

a drain region of high concentration formed at a position distant from the other end of the gate electrode by a predetermined interval.

3. A method of manufacturing a semiconductor device comprising the steps of:

forming a first photo resist film having a first opening in a source forming region on a first conductive type semiconductor substrate and also having a second opening, a size of which is larger than that of the first opening, in a drain forming region;

forming second conductive type source·drain regions of low concentration when a second conductive type first impurity is subjected to ion implantation into the substrate by using the first photo resist film as a mask and then the second type first impurity is diffused;

forming a element separation film in a predetermined region by selectively oxidizing while an oxidation-resistant film formed on the substrate is being used as a mask and also forming a first gate oxidation film, further forming a second gate oxidation film in regions except for the element separation film and the first gate oxidation film after the element separation film and the first gate oxidation film having been formed;

forming a gate electrode in such a manner that the gate electrode lies across the first and the second gate oxidation film;

forming a second photo resist film having a third opening in the source region of low concentration and also having fourth opening in a region separate from the other end portion of the gate electrode in the drain region of low concentration; and

forming second conductive type source·drain regions of high concentration when ions of a second conductive type second impurity are implanted into the substrate by using the second photo resist film, gate electrode, element separation film and first gate oxidation film as a mask.

4. A method of manufacturing a semiconductor device according to claim 3, wherein the step of forming the source·drain regions of low concentration is composed of implantation and diffusion of ions of the first impurity made of phosphorous ions, and the step of forming the source·drain regions of high concentration is composed of implantation of ions of second impurity made of arsenic ions.

5. A semiconductor device comprising:

a gate electrode formed on a first conductive type semiconductor substrate via the first and the second gate oxide film;

second conductive type source·drain regions of low and high concentration formed adjacent to the gate electrode; and

a first conductive type region of low concentration and a first conductive type region of high concentration formed adjacent to the source region of low concentration and the source region of high concentration.

6. A semiconductor device according to claim 5, wherein the second conductive type source region of low concentration and the first conductive type region of low concentration are formed when the two types of impurities, the conductive types of which are different, implanted into the substrate are simultaneously diffused.

7. A method of manufacturing a semiconductor device comprising the steps of:

forming a first photo resist film having an opening in the source·drain forming regions on the first conductive type semiconductor substrate and also forming a first impurity implantation region by implanting the second

conductive type first impurity into the substrate while the photo resist film is being used as a mask;

forming a second photo resist film having an opening in the neighborhood of the source forming region on the substrate and also forming a second impurity implantation region by implanting the first conductive type second impurity ions into the substrate while the photo resist film is being used as a mask;

forming second conductive type source·drain regions of low concentration by diffusing the first and the second impurity and also forming a first conductive type region of low concentration adjacent to the source region of low concentration;

forming a element separation film in a predetermined region by selectively oxidizing while the oxidation resistance film formed on the substrate is being used as a mask and also forming a second gate oxidation film in regions except for the element separation film and the first gate oxidation film after the first gate oxidation film has been formed;

forming a gate electrode in such a manner that the gate electrode lies across the first gate oxidation film and the second gate oxidation film;

forming a third photo resist film having an opening in the source-drain forming regions of high concentration on the substrate;

forming a second conductive type source region of high concentration in the source region of low concentration so that said source region of high concentration is very close to the outer boundary of said source region of low concentration and is adjacent to one end portion of the gate electrode when ions of a second conductive type third impurity are implanted into the substrate by using the third photo resist film, gate electrode, element separation film and first gate oxidation film as a mask and also forming a second conductive type drain region of high concentration in a region separate from the other end portion of the gate electrode; and

forming a first-conductive region of high concentration in the region of low concentration when the first conductive type fourth impurity is subjected to ion implantation into the substrate while the fourth photo resist film is being used as a mask after the fourth photo resist film having an opening has been formed on the first conductive type region of low concentration.

8. A method of manufacturing a semiconductor device according to claim 7, wherein the step of forming the second

conductive type source·drain region of low concentration and the step of forming the first conductive type region of low concentration are composed of simultaneous diffusion of the first and the second impurity, the conductive types of which are different, implanted into the substrate in the same diffusion step.

9. A method of manufacturing a semiconductor device according to claim 7 or 8, wherein the step of forming the second conductive type source·drain regions of low concentration is composed of implantation and diffusion of ions of the first impurity made of phosphorous ions, and the step of forming the first conductive type region of low concentration is composed of implantation and diffusion of ions of the second impurity made of boron ions.

10. A method of manufacturing a semiconductor device according to claim 7, wherein the step of forming the second conductive type source·drain regions of low concentration is composed of implantation and diffusion of ions of the first impurity made of phosphorous ions, the step of forming the source·drain regions of high concentration is composed of implantation of ions of the third impurity made of arsenic ions, and the step of forming the first conductive type region of high concentration is composed of implantation of

ions of the fourth impurity made of boron hydrogendifluoride.